
Solid Waste Fact Sheet *Web Version* November 2002

Managing Your Electronic Wastes

Background

The growing demand for consumer electronic equipment and the marketing of new features has caused rapid growth in the generation of electronic waste, or *e-waste*. (Under the general heading of e-waste are included computer equipment, printers, fax machines, telephones, etc.) An estimated 20 million personal computers became obsolete in 1998, and the National Safety Council has projected that more than 63 million PCs will be retired in 2005. Proper management of this growing segment of the wastestream is a challenge for business, government and the general public.

What are the concerns?

- 1) [Release of Toxics to the Environment](#) - Certain components of electronic products contain hazardous materials. While circuit boards, batteries and switches may contain heavy metals, the significant component in the e-waste stream that typically is a hazardous waste is the cathode ray tube (CRT), the "picture tube" found in most TVs and computer monitors. CRTs contain significant quantities of lead, a heavy metal that could be released to the environment when the CRTs are crushed.

- 2) [Energy and Natural Resource Conservation](#) - Electronics components and materials are resources that can be re-used or recycled. In order to conserve natural resources and the energy needed to produce new electronic equipment from virgin resources, electronic equipment should be refurbished, reused and recycled whenever possible.

This fact sheet provides guidance to waste generators on how to reduce, reuse and recycle e-waste responsibly and comply with the hazardous waste regulations.

Disposal Regulations

CRTs are often hazardous when discarded because of the presence of lead. Whether they are regulated as hazardous waste or not depends on the source that generates them and where they are sent after they are retired. In addition, wastes designated as hazardous in their state of origin must also be managed as hazardous wastes when sent to Nevada.

- **Households:** Used CRTs generated by households are not considered hazardous wastes and are not regulated under state or federal regulations.
- **Donation or Resale:** CRTs sent for continued use are not considered hazardous waste.
- **Small Quantities Exempt:** Used CRTs from a business or institution that generates less than 100 kg (about 220 lbs) of hazardous waste, including CRTs, per month are not regulated as hazardous waste under Nevada or federal regulations.
- **Large Quantities:** CRTs disposed by facilities that generate more than 100 kg/month of hazardous waste are subject to hazardous waste regulations. CRTs sent for recycling from such facilities are also regulated. In June 2002 the US EPA issued a proposed rule to streamline and lessen the cost for recycling, but it is not yet clear what the final form of this rule will be. Contact the Nevada Small Business Development Center's Business Environmental Program at http://www.nsbdc.org/env_program/ or telephone 1-800-882-3233 for information on appropriate waste management options.

E-Waste Reduction and Recycling

Refurbish & Reuse: Generators can sell used electronic equipment or donate it to schools or non-profit organizations for its original intended purpose. Not all used equipment is welcomed by such organizations, however. Newer equipment is more attractive - a good reason to move it quickly into the hands of potential users and avoid long-term storage. Several school districts in Nevada have reuse programs that allow businesses and individuals to donate equipment and materials to the schools. Following is contact information for these programs.

- Carson City School District Educator's Closet – The Educator's Closet is willing to accept select working electronic equipment, PCs should have CPUs of Pentium or higher. Contact Kristi Pulizzotto, 1402 W. King Street, Carson City, NV 89701, telephone (775) 283-2048.
- Clark County Public Education Foundation InterAct Exchange – The InterAct Exchange program accepts donations of specific types of electronic equipment. For more information visit the web site at <http://ccpef.org/>
- Washoe County's Crayons to Computers Warehouse - For more information visit www.e-collaborative.org/crayons_to_computers.html

Electronics Recycling refers to the separating and processing of the raw materials, such as plastics, metals and glass contained in e-waste. There are currently no facilities in Nevada that are authorized to recycle CRTs. Links to e-waste recycling opportunities are provided below.

- *California Integrated Waste Management Board Electronic Product Management Directory* – This web site provides access to the CIWMB's on-line database of electronics recyclers operating in California. This database can be searched by type of equipment being disposed of and by California county www.ciwmb.ca.gov/Electronics/Collection
- *Envirocycle, Inc.* - A complete electronics recycler: www.enviroinc.com/
- *Inert Corporation* – A complete electronics recycler, www.inertco.com/
- *Micro Metallica Corp.* – A complete electronics and precious metals recycler, a wholly owned subsidiary of Noranda, Inc., the multi-national mining and metals company, for more information see www.noranda.com/
- *Rechargeable Battery and Recycling Corporation* – This 8-year-old program was founded by a joint partnership of rechargeable battery manufacturers to provide free recycling of most consumer nickel-cadmium, lithium ion, and other rechargeable batteries. For more information: www.rbr.org/index.html

Manufacturers' Programs – Trade-ins, Take-backs, Leasing & Green Designs:

Several computer manufacturers have instituted green design initiatives as well as leasing, take-back, and recycling programs. Manufacturers will often take back e-waste, including CRTs, regardless of the original manufacturer. For older equipment there is likely to be some cost to the generator, although it may be only the shipping cost. Links to some of these manufacturers' web sites are provided below.

- **Compaq and Hewlett-Packard** Leasing information: www.hp.com/hpfinancialservices/ ;
E-waste recycling: www.compaq.com/services/hardware/hw_disposal.html or www.hp.com/hpinfo/community/environment/recycle/hardware.htm
Trade-in program: www.hp.tradeups.com/login/login.asp
- HP product information and environmental sustainability policy: www.hp.com/hpinfo/globalcitizenship/environment/index.html
- **IBM** Environmental Policy & Affairs: www.ibm.com/ibm/environment/ ;
Green Design: www.pc.ibm.com/ww/healthycomputing/envreport/ibm15.html
Recycling: www.ibm.com/ibm/environment/products/pcservice.shtml
- **Dell** e-waste recycling: www.dellexchange.com ;
Equipment leasing: www.dellfinancialservices.com/solutions/ ;
Environmental policy: www.dell.com/us/en/gen/corporate/vision_000_envIRON.htm

Environmentally Preferable Purchasing

Some manufacturers are exploring ways to reduce the quantity and toxicity of future discards by incorporating “greener” design into their products. Some of this comes with the advent of new technologies, such as flat-screen monitors replacing CRTs, and some of it is simply re-engineering to incorporate “green” concepts into current products. For example, Hewlett Packard has begun labeling all plastic parts with resin identification codes to make the products more recyclable. Identifying and purchasing “greener” electronic products can reduce the costs and environmental impacts of managing e-waste. The following web sites provide information regarding procurement of “green” electronics:

- USEPA WasteWise Update “*Electronics Reuse and Recycling*” available at www.epa.gov/wastewise/pubs.htm
- USEPA Environmentally Preferable Purchasing Guide “*Greening Your Purchase of Electronics*” available at www.epa.gov/oppt/epp
- Northwest Product Stewardship Council “*A Guide to Environmentally Preferable Computer Purchasing*” available at www.productstewardship.net/productsElectronics.html
- National Recycling Coalition *Electronics Recycling Initiative Environmental Design* at www.nrc-recycling.org/resources/electronics/procurement.htm

Contacts

For additional information, contact the NDEP Recycling Coordinator at (775) 687-9466 or visit the NDEP website at <http://ndep.state.nv.us>

In Clark and Washoe Counties contact:

- Clark County Health District: (702) 383-1274
- Washoe County District Health Department: (775) 328-2423